

Notice of Allowability

Application No.

10/519,242

Examiner

Ives Wu

Applicant(s)

AKIYAMA ET AL.

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

☒ This communication is responsive to 10/12/2007.

☒ The allowed claim(s) is/are 1,2 and 4-12.

☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

☒ Notice of References Cited (PTO-892)

☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____

☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____

DETAILED ACTION

(1). Applicants' Affidavits, Amendments and Remarks filed on 10/12/2007 have been received.

Claim 3 is cancelled previously. Claims 1 and 12 are amended.

Accordingly, the rejections of claims 1-2, 4-12 in prior Office Action dated 06/14/2007 is withdrawn.

Allowable Subject Matter

(2). **Claims 1-2, 4-12** are allowed.

Reasons for Allowance

(3). The following is an examiner's statement of reasons for allowance:

The instant application is allowed primarily in view of applicants' Affidavits to the effect that prior art Jun (JP 2001-133984) or Mineo et al (JP 08-044066) neither anticipate nor render obviousness to the unexpected results shown in the applicants' Affidavits of 10/12/2007.

Applicants have presented data in the Declaration that shows at concentrations of acetic acid of around 20 wt% and around 30 wt%, there is a very large loss of film thickness in the developed photoresist and also a very large variation in the film thickness across the film of the photoresist, where both properties are unacceptable lithographically. Non-uniformity of the developed photoresist film and a large loss of the photoresist film thickness deleteriously affect the etching properties of the substrate. Furthermore, applicants have found that if the acid concentration is on the range of 0.1 to 2 wt%, the changes in the photoresist film thickness are low and acceptable lithographically, without impacting solubility or refractive index. Closest prior art references Nishi Mineo (JP 08-044066) and Hatakeyama Jun (JP 2001-133984) teach the use of acids such as polyacrylic acid, acetic acid in photoresist composition, the concentration in their teaching is 20 to 30 wt% or 0 – 300 weight section. Therefore, in view of applicants' amendments, Affidavits and Remarks with respect to the prior Office Action dated 06/14/2007, no longer deprive amended claims 1-2, 4-12 of novelty. Accordingly, it is deemed amended claims 1-2, 4-12 are allowable in light of the above comments.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Ives Wu

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Date: December 7, 2007

DUANE SMITH
PRIMARY EXAMINER


12-18-07